

Whalen Symposium Abstract 2018: Grant Brighter

Background: The “establishing shot” is a film editing technique commonly employed in commercial films. An establishing shot prefaces a scene with a long, wide shot of the location in which the scene will take place. Establishing shots can depict the actors in the space in which they will be acting, the exterior of the building or vehicle where the scene will take place, or the larger geographic context of the scene, such as a cityscape. These variations in content constitute three distinct establishing shot types. The purpose of the establishing shot is to help the viewer become acclimated to a new location (Bordwell, 2002; Cutting, Brunick, & Candan, 2012; Cutting & Iricinschi, 2015). The establishing shot is considered to be standard practice for setting up new locations in films. However, cognitive film theorist David Bordwell (2002) argues that establishing shots are not necessary for indicating a location change, thus leading modern filmmakers to forgo their use with increasing frequency.

This study seeks to investigate the relative ability of the three types of establishing shots to help cue viewers to a shift to a new location. This is measured through cognitive load and arousal, which indicate how jarring the scene transitions are for the viewer, as thus, how difficult the transition is to process. Greater cognitive workload means the brain is working harder to process information, and greater arousal suggests that the transition was more surprising or jarring. Scene transitions are expected to be accompanied by transient increases in pupil dilation and oxygenation levels in the prefrontal cortex of the brain during the following scene, suggesting increased cognitive load and arousal. It is also hypothesized that scene transitions will increase the amount of time spent looking at backgrounds, suggesting a need to extract more information about the scene’s location. Participants will experience less cognitive load, less arousal, and fewer saccades to/fixations on the background after a transition to a new scene when that scene has been prefaced with an establishing shot. These effects are anticipated to be greatest for establishing shots that depict the actor(s) that will be present in the following scene.

Methods: The final study is expected to have 80 participants. Subjects will be shown a film in which different variations of the establishing shot will be paired with scene transitions. Four separate films were created, and each will be shown to a different group of participants. The films are identical in content, but employed different combinations of scene - establishing shot pairings to create a counterbalanced repeated measures experimental design. Participants will be assessed for the following variables: time spent looking at the scene’s background, pupil dilation, blink rate, and prefrontal cortex activity. Eye movements will be measured using the MangoldVision eye tracking system, as will pupil dilation as a measure of arousal and cognitive load and blink rate as a measure of cognitive load. Oxygen levels in the brain will provide an additional measure of cognitive load assessed through a Functional Near Infrared Spectroscopy (fNIRS) system developed by the Biopac Corporation.

Results: Preliminary analyses suggest that average oxygenation levels are significantly lower in scenes following an establishing shot with actors when compared to scenes following establishing shots that display the larger geographic context of the setting, ($t(11)=2.203$, $p = .05$). Also, minimum oxygenation values for scenes following establishing shots depicting the

actors were significantly lower than for scenes following a geographic establishing shot ($t(11) = 2.212$, $p = .049$).

Discussion and Conclusions:

Our tentative conclusion is that establishing shots that contain actors are much better at helping viewers process location changes than establishing shots that depict the wider geographic setting of the scene. However, further analyses are required to verify these initial results. Statistical power will be enhanced through testing the rest of the 80 participants. Also, eye-tracking measures will be analyzed, and comparisons between all of the establishing shots will be completed for the oxygenation data. Complete results will be available by May 2018. The results will either confirm or deny the belief that establishing shots make changes in location easier to process in films. This can potentially influence the way filmmaking is taught in film schools, as well as how professional filmmakers edit their movies.

References

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